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Docket No.: 09600-00023-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Meinhard Schwefer et al.

Application No.: 10/510,490

Group Art Unit: N/A

Filed: October 7, 2004

Examiner: Not Yet Assigned

For: PROCESS FOR THE REMOVAL OF  
NITROGEN OXIDES

**TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Enclosed are the following items for filing in connection with the above-referenced  
Patent Application:

1. International Preliminary Examination Report.

The Commissioner is hereby authorized to charge any deficiency in the fees filed,  
asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in  
this application by this firm) to our Deposit Account No. 03-2775, under Order No. 09600-  
00023-US.

Respectfully submitted,

By 

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Registration No.: 53,242

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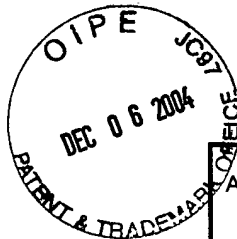
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PTO/SB/92 (09-04)

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Application No. (if known): 10/510490

Attorney Docket No.: 09600-00023-US

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Transmittal of International Preliminary Examination Report  
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PCT/EP2003/002958



**Translation**

PATENT COOPERATION TREATY

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**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 202ku05.wo	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/002958	International filing date (day/month/year) 21 March 2003 (21.03.2003)	Priority date (day/month/year) 09 April 2002 (09.04.2002)
International Patent Classification (IPC) or national classification and IPC B01D 53/86		
Applicant UHDE GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 08 September 2003 (08.09.2003)	Date of completion of this report 21 May 2004 (21.05.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

Form PCT/IPEA/409 (cover sheet) (January 1994)

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/002958

## I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

☐ the international application as originally filed.

☒ the description, pages 1-12, as originally filed,  
 pages \_\_\_\_\_, filed with the demand,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the claims, Nos. 1-7, as originally filed,  
 Nos. \_\_\_\_\_, as amended under Article 19,  
 Nos. \_\_\_\_\_, filed with the demand,  
 Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☐ the drawings, sheets/fig \_\_\_\_\_, as originally filed,  
 sheets/fig \_\_\_\_\_, filed with the demand,  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/EP 03/02958

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 - 7	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 7	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 7	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following document:

D1: PATENT ABSTRACTS OF JAPAN, Vol. 1997, No. 05,  
30 May 1997 (1997-05-30) & JP 09 000884 A  
(BABCOCK HITACHI KK), 7 January 1997  
(1997-01-07) cited in the application & DATABASE  
WPI Week 199711 Derwent Publications Ltd.,  
London, GB; AN 1997-113390 XP002242664 & JP 09  
000884 A, 7 January 1997 (1997-01-07)

1. The present application meets the requirements of PCT Article 33(1) because the subject matter of claims 1 to 7 is novel and inventive (PCT Article 33(2) and (3)).

Document D1 discloses a method for reducing the N<sub>2</sub>O and NO<sub>x</sub> content in exhaust gases, ammonia, alcohols and/or hydrocarbons being used as reducing agent and a BETA type zeolite charged with iron being used as catalyst. The method is carried out efficiently in a temperature range of 350 to 450°C.

The subject matter of claim 1 differs from the disclosure of document D1 in that the quantity of

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nitrogen-containing reducing agent is measured so that the  $\text{NO}_x$  present in the gas is completely reduced.

The complete reduction of  $\text{NO}_x$  results in a greater degree of reduction of  $\text{N}_2\text{O}$  when using the same quantity of the same reducing agent. This is attributed to the inhibiting effect of the  $\text{NO}_x$  on the  $\text{N}_2\text{O}$  reduction. The complete reduction of  $\text{NO}_x$  allows more complete reduction of  $\text{N}_2\text{O}$  using less reducing agent, resulting in an economical saving. D1 contains nothing in this regard to point to the solution to the technical problem of interest.